



00270

PATENT TRADEMARK OFFICE

WST91BUSA

TECH CENTER 1600/2900

MAR 25 2002

RECEIVED

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of) Group Art Unit: 1653
Laszlo Otvos) Examiner:
Appln. No. 09/980,804)
Filed: December 3, 2001)
For: NOVEL PYRRHOCORICIN-DERIVED) March 20, 2002
PEPTIDES, AND METHODS OF USE)
THEREOF)

Assistant Commissioner for Patents
Washington, DC 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

Applicants submit to the Examiner the attached Form PTO/SB/08A/B document listing and this paper pursuant to 37 CFR §1.56 and § 1.97-1.98. Form PTO/SB/08A/B is attached and copies of the references are enclosed herewith.

According to 37 CFR §1.97(c) and §1.97(e), Applicants and the undersigned attorney hereby certify that documents (AA), (AL), (AM) and (AR) were previously cited in the International Search Report in prior International Application No. PCT/US00/16989, filed June 21, 2000. This application is a 371 of that International patent application. A copy of the International Search Report is attached hereto.

The following comments are made on the documents that are in a language other than English.

Express Mail No. ET033626910US

(AN) International Publication No. WO99/05270 (in French) refers to antimicrobial penaeidin peptides from shrimp. Fragments of the peptide, nucleic acid sequences encoding the penaeidin peptide or fragments, recombinant vectors containing the nucleic acid sequences and transformed host cells are disclosed. The peptides are disclosed in the publication and have different amino acid and nucleic acid sequences than those recited in the instant invention. Compare, for example, the sequence listings of the two applications.

(AP) French Patent Application No. 2,732,345 (in French) refers to peptides from *Podisus maculiventris* having antibacterial activity against gram negative bacteria. These peptides have the formula: Val-Asp-Lys-Pro-Asp-Tyr-Arg-Pro-Arg-Pro- X, wherein X has at least one tripeptide motif Pro-Arg-Pro. This peptide has a different formula from the peptides claimed in the instant application.

(AQ) French Patent Application No. 2,695,392 (in French) refers to antibacterial peptides present in paleopterous insects, particularly *Aeschna cyanea*, which are active against gram positive and gram negative bacteria. These peptides are different from those recited in the present application. See claim 10 and Figs. 4 and 5 of this document.

(AAL) French Patent Application No. 2,733,237 (in French) refers to peptides from the *P. maculiventris* insect species, that are antibacterial and antifungal agents. These peptides contain the amino acid sequence Ile-Ile-Tyr-Cys-Asn-Arg-Arg-Thr-Gly-Lys -Cys-. See the abstract, pages 1, 3-4 and claim 1 of this document. These peptides are different from those disclosed in the present specification.

(AO) A translation of International Patent Publication No. WO97/30082 (in French) is provided that is its 35 USC §371 United States national phase application issued as US Patent No. 6,172,336 on October 3, 2000 with a 35 USC §102(c) date of November 16, 1998. This patent refers to peptides with antibacterial and antifungal properties. The peptides disclosed are different peptides than those recited in the instant application.

This Information Disclosure Statement is submitted more than three months from the filing date of this application, but prior to receipt of an Office Action on the merits. Therefore, no fees are believed due. However, the Director of the U. S. Patent and Trademark Office is hereby authorized to charge any deficiency in any fees due with the filing of this paper or credit any overpayment in any fees paid on the filing, or during prosecution of this application to Deposit Account No. 08-3040.

The Examiner is respectfully requested to consider the documents identified in this paper and in the attached Form PTO/SB/08A/B during the course of the examination of this application.

Respectfully submitted,

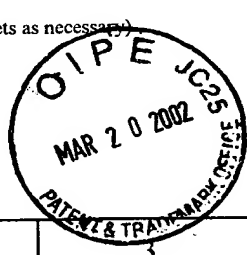
HOWSON AND HOWSON
Attorneys for the Applicants

By

Mary E. Bak
Mary E. Bak
Registration No. 31,215
Spring House Corporate Center
Box 457
Spring House, PA 19477
Telephone: (215) 540-9206
Telefacsimile: (215) 540-5818

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)

| | | | | | |
|---|---|----|--------------------------|------------------------|-----------|
| Substitute for Form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)  | | | Complete if Known | | |
| | | | Application Number | 09/980,804 | |
| | | | Filing Date | December 3, 2001 | |
| | | | First Named Inventor | Laszlo Otvos | |
| | | | Group Art Unit | 1653 | |
| | | | Examiner Name | | |
| Sheet | 1 | of | 3 | Attorney Docket Number | WST91BUSA |

RECEIVED
 MAR 25 2002
 TECH CENTER 1600/2900

U.S. PATENT DOCUMENTS

| Examiner Initials [*] | Cite No. ¹ | U.S. Patent Document | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------------------|-----------------------|----------------------|-----------------------------------|---|--|---|
| | | Number | Kind Code ² (if known) | | | |
| | AA | 5,874,411 | B1 | O. Srivastava | 02/23/1999 | |
| | AB | 6,127,336 | B1 | P. Bulet | 10/03/2000 | |
| | AC | 6,331,522 | B1 | P. Bulet | 12/18/2001 | |
| | | | | | | |
| | | | | | | |

FOREIGN PATENT DOCUMENTS

| Examiner Initials [*] | Cite No. ¹ | Foreign Patent Document | | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁶ |
|--------------------------------|-----------------------|-------------------------|---------------------|-----------------------------------|---|--|---|----------------|
| | | Office ³ | Number ⁴ | Kind Code ⁵ (if known) | | | | |
| | AL | WO | WO94/05787 | A1 | P. Bulet | 03/17/1994 | | |
| | AM | EP | 352,014 | A2 | J. Rivier | 01/24/1990 | | |
| | AN | WO | WO99/05270 | A2 | D. Destoumieux | 02/04/1999 | | |
| | AO | WO | WO97/30082 | A2 | P. Bulet | 08/21/1997 | | |
| | AP | FR | 2,732,345 | A1 | P. Bulet | 10/04/1996 | | |

| | | | |
|--------------------|--|-----------------|--|
| Examiner Signature | | Date Considered | |
|--------------------|--|-----------------|--|

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

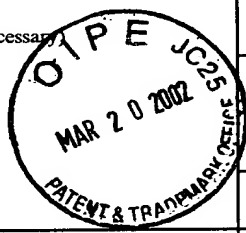
Please type a plus sign (+) inside this box → ☐

PTO/SB/08-00 (08-00)

RECEIVED

MAR 25 2002
TECH CENTER 1600/2900

| | | | | | |
|--|---|----|---|--------------------------|------------------|
| Substitute for Form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | | | Complete if Known | |
| | | | | Application Number | 09/980,804 |
| | | | | Filing Date | December 3, 2001 |
| | | | | First Named Inventor | Laszlo Otvos |
| | | | | Group Art Unit | 1653 |
| | | | | Examiner Name | |
| Sheet | 2 | of | 3 | Attorney Docket Number | WST91BUSA |



| U.S. PATENT DOCUMENTS | | | | | | |
|--------------------------------|-----------------------|----------------------|-----------------------------------|---|--|---|
| Examiner Initials [*] | Cite No. ¹ | U.S. Patent Document | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number | Kind Code ² (if known) | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| FOREIGN PATENT DOCUMENTS | | | | | | | | |
|--------------------------|-----------------------|-------------------------|---------------------|-----------------------------------|---|--|---|----------------|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁶ |
| | | Office ³ | Number ⁴ | Kind Code ⁵ (if known) | | | | |
| | AQ | FR | 2,695,392 | A1 | P. Bulet | 03/11/1994 | | |
| | AAL | FR | 2,733,237 | A1 | P. Bulet | 10/25/1996 | | |
| | AAM | WO | WO98/40401 | A3 | J. Fraser | 09/17/1998 | | |
| | | | | | | | | |
| | | | | | | | | |

| | | | |
|--------------------|--|-----------------|--|
| Examiner Signature | | Date Considered | |
|--------------------|--|-----------------|--|

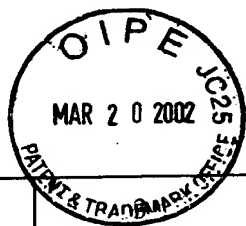
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08B (08-00)

| | | | | | |
|--|---|----|--------------------------|------------------|-----------|
| Substitute for Form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | | Complete if Known | | |
| | | | Application Number | 09/980,804 | |
| | | | Filing Date | December 3, 2001 | |
| | | | First Named Inventor | Laszlo Otvos | |
| | | | Group Art Unit | 1653 | |
| | | | Examiner Name | | |
| Sheet | 3 | of | Attorney Docket Number | | WST91BUSA |



TECH CENTER 1600/2900

MAR 25 2002

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

| Examiners Initials ¹ | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|---------------------------------|-----------------------|---|----------------|
| | AR | R. HOFFMANN et al, "Range of Activity and Metabolic Stability of Synthetic Antibacterial Glycopeptides from Insects", Biochimica et Biophysica Acta, 1426:459-467 (February, 1999) | |
| | AS | A. MCMANUS et al, "Conformational Studies by NMR of the Antimicrobial Peptide, Drosocin, and its Non-Glycosylated Derivative: Effects of Glycosylation on Solution Conformation", Biochemistry, 38(2):705-714 (1999) | |
| | AT | P. BULET et al, "Enlarged Scale Chemical Synthesis and Range of Activity of Drosocin, an O-glycosylated Antibacterial Peptide of Drosophila", Eur. J. Biochem., 238:64-69 (1996) | |
| | AU | P. BULET et al, "A Novel Inducible Antibacterial Peptide of Drosophila Carries an O-Glycosylated Substitution", J. Biol. Chem., 268(20):14893-14897 (July, 1993) | |
| | AV | S. COCIANCICH et al, "Novel Inducible Antibacterial Peptides from a Hemipteran Insect, the sap-sucking bug Pyrrhocoris apterus", Biochem. J., 300:567-575 (1994) | |
| | AW | D. HULTMARK, "Immune Reactions in Drosophila and Other Insects: A Model for Innate Immunity", Trends Genet., 9(5):178-183 (May, 1993) | |
| | AX | J. GILLESPIE et al, "Biological Mediators of Insect Immunity", Annu. Rev. Entomol., 42:611-643 (1997) | |
| | AY | L. OTVOS et al, "Insect Peptides with Improved Protease-Resistance Protect Mice Against Bacterial Infection", Protein Science, 9:742-749 (2000) | |

| | | | |
|--------------------|--|-----------------|--|
| Examiner Signature | | Date Considered | |
|--------------------|--|-----------------|--|

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.